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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/779,912	02/08/2001	Neil Singer	0162095-0011	6500

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TWO INTERNATIONAL PLACE  
BOSTON, MA 02110

EXAMINER
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WONG, KIN C

ART UNIT	PAPER NUMBER
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2627

DATE MAILED: 12/12/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	09/779,912	SINGER, NEIL	
	<b>Examiner</b>	<b>Art Unit</b>	
	K. Wong	2627	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 26 September 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-61 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-59 and 61 is/are rejected.
- 7) ☒ Claim(s) 60 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

This is a response to amendment filed on 9/26/06.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims (1, 2, 6-19, 22-31, 35-58 and 61) are rejected under 35 U.S.C. 102(b) as being anticipated by Scaramuzzo, Jr. et al (5465035 – as Scaramuzzo).

Regarding claim 1: Scaramuzzo discloses a procedure of using a position-velocity table to control a dynamic system (col. 3, lines 17-18 of Scaramuzzo), the procedure including the steps of:

generating a position variable for the system (col. 5, lines 33-35 and col. 7, lines 34-42 of Scaramuzzo);

determining a velocity command for the system using the position-velocity table (col. 5, lines 29-36 of Scaramuzzo), the determining step determining the velocity command based on the position variable (col. 8, lines 4-24 of Scaramuzzo);

shaping the velocity command in order to generate a shaped velocity command (col. 8, lines 50-56 and col. 12, lines 27-40 of Scaramuzzo);

and controlling the system based on the shaped velocity command, wherein the shaping step reduces unwanted vibration in the dynamic system (col. 8, lines 25-39 of Scaramuzzo).

Regarding claim 2: Scaramuzzo depicts in figures 2 and 3 wherein the method controls a component of the dynamic system, the component comprising a head of a data storage device; and wherein the controlling step controls the head to move among various tracks of a data storage medium in the data storage device.

Regarding claims 6-9: claims (6-9) have limitations similar to those treated in the above rejection(s), and are met by the reference as discussed above. Claim 6 however also recites the following limitations of "table having N ( $N > 2$ ) dimensions" which Scaramuzzo discloses in col. 7, lines 34-37.

Regarding claims 10-13: claims (10-13) have limitations similar to those treated in the above rejection(s), and are met by the references as discussed above. Claim 10 however also recites the following limitations of "plurality of trajectories" which Scaramuzzo discloses in col. 7, lines 33-57.

Regarding claim 14-19 and 22-29: claims (14-19 and 22-29) have limitations similar to those treated in the above rejection(s), and are met by the references as discussed above. Claim 14 however also recites the following limitations of "... for reducing unwanted vibration..." which Scaramuzzo discloses in col. 8, lines 25-39.

Regarding claims 30-31, 35-58 and 61: apparatus claims (30-31, 35-58 and 61) are met the method of Scaramuzzo is in use.

***Claim Rejections - 35 USC § 103***

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The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims (3-5, 20-21, 32-34 and 59) are rejected under 35 U.S.C. 103(a) as being unpatentable over Scaramuzzo, Jr. et al (5465035) in view of Singhose et al (5638267).

Regarding claims 3-4 and 20-21: the reason for Scaramuzzo is stated in above rejections. Scaramuzzo is silent on the capabilities of the specific for the inverse shaper (col. 12, lines 27-39 of Scaramuzzo). Singhose et al is relied on the specific of the inverse shaper (see abstract and col. 3, lines 35-40 of Singhose et al).

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to includes the inverse shaper in Scaramuzzo as taught by Singhose et al. The rationale is as follows: one of ordinary skill in the art would have been motivated to eliminate the exact desired frequency of the vibration as suggested in col. 38, lines 40-42 of Singhose et al.

Regarding claim 5: the combination of Scaramuzzo and Singhose et al depicts that wherein the measured position of the component is determined after the controlling step controls the component; and wherein the measured position of the component is fed back to the determining step following the controlling step (figure 77 of Singhose et al and see associated descriptions for details).

Regarding claims 32-34: apparatus claims 32-34 are met when the methods of Scaramuzzo and Singhose et al are in use.

Regarding claim 59: the combination of Scaramuzzo and Singhose et al teaches that of the partial fraction expansion equations for dynamic system in col. 11, lines 57 to col. 12, line 6 of Scaramuzzo and in col. 9, line 9 to col. 10, line 9 of Singhose et al.

***Allowable Subject Matter***

Claim 60 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Response to Arguments***

Applicant's arguments filed 9/26/06 have been fully considered but they are not fully persuasive.

Regarding remarks (9/26/06) on page 21: applicant argues that Black et al (5638267) fails to recognize the unwanted vibrations. Applicant is directed to col. 34, lines 5-10 of Black et al. Therefore, Black et al does recognized the unwanted vibrations and is a proper reference in the combination with Singhose et al.

Although the finality is not given, the standing of the rejections with Black et al will be reserved.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Fowell (5610848) and Mc Connell et al (6002232) are cited for the shaping of the unwanted vibrations in a dynamic system.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to K. Wong whose telephone number is (571) 272-7566.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, H. Nguyen can be reached on (571) 272-7579. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

kw

10 Dec 06

  
K. WONG  
PRIMARY EXAMINER